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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/051,230	01/22/2002	Shinichi Kawamura	218335US0CONT	8868

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EXAMINER

RODEE, CHRISTOPHER D

ART UNIT PAPER NUMBER

1756

DATE MAILED: 04/24/2002

7

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/051,230

Applicant(s)

KAWAMURA ET AL.

Examiner

Christopher D RoDee

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 April 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-42 is/are pending in the application.
- 4a) Of the above claim(s) 1-16, 21, 24-30, 34, 36, 40 and 42 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 17-20, 22, 23, 31-33, 35, 37-39 and 41 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☒ Certified copies of the priority documents have been received in Application No. 09/610,427.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION*****Election/Restrictions***

Applicant's election with traverse of group II, and polycarbonate #1 (p. 90) in Paper No. 7 is acknowledged. The traversal is on the ground(s) that the Examiner has not provided sufficient reasons and/or examples to support the asserted distinctness of the different groups of invention or of the noted species. This is not found persuasive because the Examiner has not "merely stated the conclusion" in providing the alternative utility for the restriction between groups I, II, and III, as asserted by applicants. The Examiner has distinctly presented alternative utilities and applicants have not presented any rational why the alternative utilities are not technologically feasible. Polycarbonates are typically transparent or substantially transparent and are used as lens materials for eyeglasses, which are usually several millimeters thick. A layer of polycarbonate having the same or less thickness (i.e., less than several millimeters) would also be expected to be transparent. Such a material would be useful as a covering material to protect an image, such as one formed by ink jet copying. If applicant takes the position that the polycarbonates of the instant claims are not substantially transparent the Examiner will reconsider the restriction and, if appropriate, provide alternative utility.

Similarly, applicants have not provided any reason why the very specific alternative process proposed by the Examiner would not be feasible with the photoconductor. The mere conclusion by applicants that the Examiner-proposed alternative is not sufficient to show distinctness is not sufficient. A light produced image fixed on a different member would appear to be distinct from a non-light produced image, particularly when it is fixed on the surface of the photoconductor. If applicants are taking the position that these are obvious alternatives then they are asked to specifically state this in the response.

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The species are seen as distinct for the reasons of record, particularly because they contain different transporting groups and repeating back-bone units containing the charge transporting groups. The Examiner notes that all claims of Group II, except claims 21, 24, 34, 36, 40, and 42, read on the elected species because these claims are considered as containing the limitations of the elected species. There are no limitations in claims 17-20, 22, 23, 31-33, 35, 37-39, and 41 that exclude the elected species so these claims are seen as reading on that species.

The requirement is still deemed proper and is therefore made FINAL.

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 37-39 and 41 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential elements, such omission amounting to a gap between the elements. See MPEP § 2172.01. The omitted elements are: the structural elements of the process cartridge. The recitation of a photoreceptor alone does not define the requisite components of the process cartridge or their relationship. Applicants' are reminded that a device (i.e., apparatus) is defined by its structure. The instant claims fail to define any structure and particularly fail to define any structure that allows a photoconductor to differ from a process cartridge.

**Claim Rejections - 35 USC § 103**

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 17-20, 22, and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ikuno *et al.* in US Patent 5,871,876 in view of Tanaka *et al.* in US Patent 5,976,746.

Ikuno discloses an electrophotographic photoconductor comprising a photosensitive layer having a polycarbonate. The polycarbonate is given by the formula (I) (cols. 3 and 37) having "k" units containing a triarylamino in the side chain and "j" units. The formula has 0.1 to 1 "k" units and 0 to 0.9 "j" units. In this formula Ar<sup>1</sup>, Ar<sup>2</sup>, and Ar<sup>3</sup> are each an arylene group and R<sup>1</sup> and R<sup>2</sup> are aryl groups which may have a substituent. An exemplified triarylamino-containing unit is present in Example 1 where each Ar group is phenylene and each R group is p-methylphenyl. Also in the formula (I), the "X" unit may be a bivalent group given by the formula (Ia), where "Y" is oxygen and the substituting "R" groups may be alkyl. Specific "j" units are derived from monomers such as 4,4'-dihydroxydiphenoxide (col. 6, l. 27). The reference also discloses other charge transporting units such as those having the triarylamino group in the backbone of the resin (formula (VII); col. 15).

The primary reference does not identically disclose the claimed, elected polymer given on specification page 90, but provides substantial guidance to the artisan to select units as claimed from the disclosure.

Further motivating the selection of the formula (Ia) as the repeating unit where X is oxygen is the disclosure of Tanaka, which presents photoconductors with charge transporting

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polymers in the photoconductive layer. These charge transporting polymers are similar to the polycarbonates given in Ikuno by the formula (VII). This reference discloses repeating units of the formula (2), which correspond to the "j" units in Ikuno. Tanaka discloses useful monomers for forming these units in columns 116 and 117, and includes 4,4'-dihydroxydiphenyl ether (the same as 4,4'-dihydroxydiphenoxide) and 4,4'-dihydroxy-3,3'-dimethyldiphenyl ether (col. 116, l. 44,45).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use 4,4'-dihydroxy-3,3'-dimethyldiphenyl ether as the reactant for the "j" units in Ikuno because Ikuno discloses that 4,4'-dihydroxydiphenyl ether units (the same as 4,4'-dihydroxydiphenoxide) are useful and suggests substituting alkyl groups on the phenyl rings. The supporting Tanaka reference discloses that 4,4'-dihydroxydiphenyl ether and 4,4'-dihydroxy-3,3'-dimethyldiphenyl ether are alternatives for each other in the formulation of polycarbonates having triarylamine charge transporting groups. Because the respective ether groups are known alternatives for charge transporting polycarbonate resins and because both ether groups fall within the general formula (Ia) in the Ikuno, the skilled artisan would have found it obvious to use either group in the polycarbonate of Ikuno with the expectation of success in a photoconductive layer. The artisan would also have found it obvious to use the exemplified triarylamine unit in Ikuno because this reference teaches that this unit will provide required charge transport functionality. The artisan would have found it obvious to use amounts of the "k" units and "j" units within the scope of Ikuno's teaching of 0.1 to 1 "k" units and 0 to 0.9 "j" units and particularly values near equal amounts because Ikuno Example I uses equal amounts of each unit.

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Claims 31-33, 35, 37-39, and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ikuno *et al.* in US Patent 5,871,876 in view of Tanaka *et al.* in US Patent 5,976,746 as applied to claims 17-20, 22, and 23 above, and further in view of common knowledge in the art.

The primary reference does not disclose the specific means of the claimed apparatus. This reference also does not disclose a process cartridge.

The Examiner takes Official Notice that electrophotographic apparatuses having the recited means and process cartridges are exceedingly well known in the electrophotographic art. The Examiner also takes Official Notice that these devices are known to have electrophotographic photoconductors capable of forming an electrostatic latent image.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the obvious photoconductor discussed in the rejection of Ikuno in view of Tanaka above in well known electrophotographic apparatuses having the recited means or in a process cartridge because these devices are useful to automate the production of images in both office and home settings.

### **Conclusion**

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

This is a continuation of applicant's earlier Application No. 09/610,427. All claims are drawn to the same invention claimed in the earlier application and could have been finally rejected on the grounds and art of record in the next Office action if they had been entered in the earlier application. Accordingly, **THIS ACTION IS MADE FINAL** even though it is a first

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action in this case. See MPEP § 706.07(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no, however, event will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher D RoDee whose telephone number is 703 308-2465. The examiner can normally be reached on most weekdays from 6 to 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Huff can be reached on 703 308-2464. The fax phone numbers for the organization where this application or proceeding is assigned are 703 872-9310 for regular communications and 703 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 308-0661.

cdr  
April 22, 2002

  
**CHRISTOPHER RODEE**  
**PRIMARY EXAMINER**